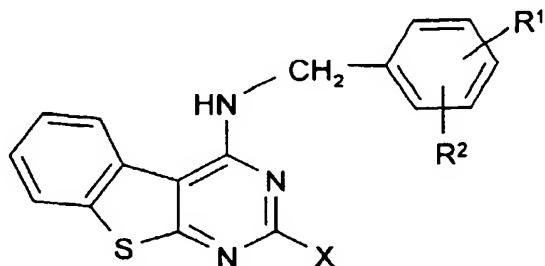


The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A compound of Compounds of the formula I or a physiologically acceptable salt thereof



in which

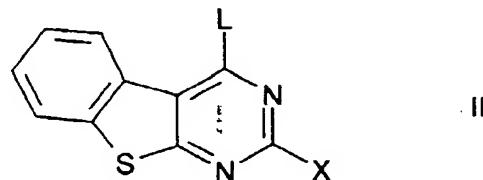
- R¹, R² in each case independently of one another are H, A, OH, OA or Hal,
X is R⁴, R⁵ or R⁶, which is monosubstituted by R⁷,
R⁴ is linear or branched alkylene having 1-10 C atoms, in which one or two CH₂ groups are optionally can be replaced by -CH=CH- groups,
R⁵ is cycloalkyl or cycloalkyl alkylene having 5-12 C atoms,
R⁶ is phenyl or phenylmethyl,
R⁷ is COOH, COOA, CONH₂, CONHA, CON(A)₂ or CN,
A is alkyl having 1 to 6 C atoms and
Hal is F, Cl, Br or I,
where at least one of the radicals R¹ or R² is OH,
and their physiologically acceptable salts.

2. (Currently Amended) A compound of Compounds of the formula I according to Claim 1, that is

- (a) 3-[4-(3-chloro-4-hydroxybenzylamino)benzo[4,5]thieno[2,3-d]pyrimidin-2-yl]propionic acid;
(b) 7-[4-(3-chloro-4-hydroxybenzylamino)benzo[4,5]thieno[2,3-d]pyrimidin-2-yl]heptanoic acid;
(c) 5-[4-(3-chloro-4-hydroxybenzylamino)benzo[4,5]thieno[2,3-d]pyrimidin-2-yl]valeric acid;

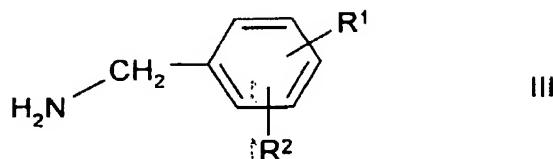
- (d) 2-{4-[4-(3-chloro-4-hydroxybenzylamino)benzo[4,5]thieno[2,3-d]pyrimidin-2-yl]cyclohex-1-yl}acetic acid; or
 (e) 4-[4-(3-chloro-4-hydroxybenzylamino)benzothieno[2,3-d]pyrimidin-2-yl]cyclohexanecarboxylic acid; or
a physiologically acceptable salt thereof and their physiologically acceptable salts.

3. (Currently Amended) A process for preparing a compound of Process for the preparation of compounds of the formula I according to Claim 1 or a salt thereof comprising and their salts,
characterized in that
 a) reacting a compound of the formula II



in which

X has the meaning indicated in claim 1,
 and L is Cl, Br, OH, SCH₃ or a reactive esterified OH group,
 is reacted with a compound of the formula III



in which

R¹ and R² have the meanings indicated in claim 1,
 or
 b) in a compound of the formula I, a radical X is converted into another radical X by hydrolysing an ester group that is an ester group is hydrolyzed to a COOH group or converting a radical X that is a COOH group is reacted to form into an amide or into a cyano group

or

c) in a compound of the formula I, a radical R¹ and/or R² which are alkoxy groups are reacted to form is converted into another radical R¹ and/or R² by converting an alkoxy group into a hydroxyl group, or
and/or a compound of the formula I is reacted with an acid or a base to form a salt of a compound of formula I converted into one of its salts.

4. (Currently Amended) A process for preparing a Process for the production of pharmaceutical composition comprising bringing together preparations, characterized in that a compound of the formula I according to Claim 1 or a physiologically acceptable salt thereof and/or one of its physiologically acceptable salts is brought into a suitable dose form together with at least one a solid, liquid or semi-liquid vehicle or excipient.

5. (Currently Amended) Pharmaceutical preparation, characterized in that it contains at least one compound of the A pharmaceutical composition comprising a compound of formula I according to Claim 1 or a physiologically acceptable salt thereof and a solid, liquid or semi-liquid vehicle or excipient and/or one of its physiologically acceptable salts.

6. (Currently Amended) A method for controlling a disease of the cardiovascular system comprising administering a pharmaceutical composition according to claim 5 to a patient in need thereof Compounds of the formula I according to Claim 1 and their physiologically acceptable salts for the control of diseases of the cardiovascular system and for the treatment and/or therapy of potency disorders.

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (New) A method of inhibiting phosphodiesterase V comprising administering a compound of formula I according to Claim 1 or a physiologically acceptable salt thereof to a patient in need thereof.

11. (New) A method of inhibiting phosphodiesterase V in vitro comprising bringing together a compound of formula I according to Claim 1 or a physiologically acceptable salt thereof with phosphodiesterase V.
12. (New) A method for the treatment or therapy of cardiac insufficiency comprising administering a pharmaceutical composition according to claim 5 to a patient in need thereof.
13. (New) A method for the treatment or therapy of erectile dysfunction comprising administering a pharmaceutical composition according to claim 5 to a patient in need thereof.
14. (New) A pharmaceutical composition comprising a compound of Claim 2 or a physiologically acceptable salt thereof and a solid, liquid or semi-liquid vehicle or excipient
15. (New) A method for controlling a disease of the cardiovascular system comprising administering a pharmaceutical composition according to claim 14 to a patient in need thereof.
16. (New) A method of inhibiting phosphodiesterase V comprising administering a compound of formula I according to Claim 2 or a physiologically acceptable salt thereof to a patient in need thereof.
17. (New) A method of inhibiting phosphodiesterase V in vitro comprising bringing together a compound of formula I according to Claim 2 or a physiologically acceptable salt thereof with phosphodiesterase V.
18. (New) A method for the treatment or therapy of cardiac insufficiency comprising administering a pharmaceutical composition according to claim 14 to a patient in need thereof.
19. (New) A method for the treatment or therapy of erectile dysfunction

comprising administering a pharmaceutical composition according to claim 14 to a patient in need thereof.

20. (New) A method for the treatment or therapy of a potency disorder comprising administering a pharmaceutical composition according to claim 5 to a patient in need thereof

21. (New) A method for the treatment or therapy of a potency disorder comprising administering a pharmaceutical composition according to claim 14 to a patient in need thereof

22. (New) A compound of formula I according to Claim 1 or a physiologically acceptable salt thereof, wherein X is R⁴ or R⁶.

23. (New) A compound of formula I according to Claim 1 or a physiologically acceptable salt thereof, wherein X is alkylene having 2-5 C atoms, cyclohexyl, phenyl or phenylmethyl, and R⁷ is COOH or COOA.

24. (New) A compound of formula I according to Claim 23 or a physiologically acceptable salt thereof, wherein R¹ is Hal, and R² is OH.